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EXAMINER	
EHNE, CHARLES	

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/801,448	MANNAVA ET AL.	
	Examiner	Art Unit	
	Charles Ehne	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1- 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender (US 2005/0081080) taken in view of Phelps (US 2003/0061476).

As to claim 1, Bender discloses a method comprising:

detecting an error of a transmission of an interconnect (Page 8, ¶0125, lines 4-6 & lines 16-18);

retrying the transmission in response to the detected error (Page 34, ¶0350, lines 5-6); and

detecting a hard failure if the retrying is unsuccessful (Page 34, ¶0350, lines 5-7).

Bender fails to disclose reducing a transmission width of the interconnect in response to the detected hard failure.

Phelps discloses dynamically reconfiguring a signal path when detecting a predetermined condition (Abstract, lines 4-7). Phelps does disclose reducing a transmission width of the interconnect in response to the detected hard failure (Page 3, ¶0032, lines 7-15).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to implement Phelps's method of reducing the width of the interconnect in response of the detected hard failure with Bender's method of detecting transmission errors. A person of ordinary skill in the art would have been motivated to make the modification because by reducing the width of the connection allows the working portions of the interconnect to continue working without the whole computer system shutting down or resetting to obtain working functionality of the interconnect (Phelps: Page 3, ¶0032, lines 12-15).

As claim 2, Phelps discloses the method according to claim 1, wherein the reducing of the transmission width comprises selecting a working portion of the interconnect in response to the hard failure (Page 5, ¶0053, lines 4-11).

As claim 3, Phelps discloses the method according to claim 1, wherein the detecting of the hard failure provides an indication of failed portions of the interconnect, and the reducing selects a working portion of the interconnect based on the indication of failed portions (Page 5, ¶0055, lines 4-10).

As claim 4, Bender discloses the method according to claim 1, wherein the detecting of the transmission error is performed using a cyclic redundancy check (Page 8, ¶0125, lines 16-17).

As claim 5, Phelps discloses the method according to claim 1, further comprising replacing the interconnect with a replacement interconnect after the transmission width is reduced (Page 6, ¶0058, lines 7-9).

As claim 6, Phelps discloses the method according to claim 1, further comprising retrying the transmission after the transmission width is reduced (Page 6, ¶0058, lines 1-11).

As claim 7, Phelps discloses the method according to claim 1, wherein the interconnect is a bus (Page 3, ¶ 0031, lines 17-22).

As to claim 8, Bender discloses an apparatus comprising:

a transmission error detector to detect an error of a transmission of an interconnect (Page 32, ¶0325, lines 15-20);

a transmitting agent to retry the transmission in response to the detected error (Page 34, ¶0349, lines 1-6); and

a hard failure detector to detect a hard failure of the interconnect if the retry is unsuccessful (Page 34, ¶0349, lines 6-10).

Bender fails to disclose a transmission width reducer to reduce a transmission width of the interconnect in response to the hard failure detector.

Phelps discloses dynamically reconfiguring a signal path when detecting a predetermined condition (Abstract, lines 4-7). Phelps does discloses a transmission

width reducer to reduce the transmission width of the interconnect in response to the hard failure detector (Page 3, ¶0032, lines 7-15).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to implement Phelps's width reducer with Bender's hard failure detector. A person of ordinary skill in the art would have been motivated to make the modification because by reducing the width of the connection allows the working portions of the interconnect to continue working without the whole computer system shutting down or resetting to obtain working functionality of the interconnect (Phelps: Page 3, ¶0032, lines 12-15).

As claim 9, Phelps discloses the apparatus according to claim 8, wherein the transmission width detector is to select a working portion of the interconnect in response to the hard failure detector (Page 5, ¶0053, lines 4-11).

As claim 10, Phelps discloses the apparatus according to claim 8, wherein the hard failure detector is to indicate failed portions of the interconnect, and the transmission width detector is to select a working portion of the interconnect based on the indicated failed portions (Page 5, ¶0055, lines 4-10).

As to claim 11, Bender discloses the apparatus according to claim 8, wherein the transmission error detector is to perform a cyclic redundancy check (Page 32, ¶0325, lines 15-20).

As claim 12, Phelps discloses the apparatus according to claim 8, the transmitting agent to retry the transmission after the transmission width is reduced (Page 6, ¶0058, lines 1-11).

As claim 13, Phelps discloses the apparatus according to claim 8, wherein the interconnect is a bus (Page 3, ¶ 0031, lines 17-22).

As claim 14, Phelps discloses the apparatus according to claim 8, wherein the interconnect is an input/output bus (Page 3, ¶ 0031, lines 17-22).

As to claim 15, Bender discloses an interconnect comprising:

a transmission width to transmit information (Page 4, ¶0078, lines 1-5);

a transmission error detector to detect a transmission error of the interconnect (Page 32, ¶0325, lines 15-20);

a transmitting agent to retry a transmission in response to the detected error (Page 34, ¶0349, lines 1-6); and

a hard failure detector to detect a hard failure of the interconnect if the retry is unsuccessful (Page 34, ¶0349, lines 6-10).

Bender fails to disclose a transmission width reducer to reduce a transmission width of the interconnect in response to the hard failure detector.

Phelps discloses dynamically reconfiguring a signal path when detecting a predetermined condition (Abstract, lines 4-7). Phelps does discloses a transmission width reducer to reduce the transmission width of the interconnect in response to the hard failure detector (Page 3, ¶0032, lines 7-15).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to implement Phelps's width reducer with Bender's hard failure detector. A person of ordinary skill in the art would have been motivated to make the modification because by reducing the width of the connection allows the working

portions of the interconnect to continue working without the whole computer system shutting down or resetting to obtain working functionality of the interconnect (Phelps: Page 3, ¶0032, lines 12-15).

As claim 16, Phelps discloses the interconnect according to claim 15, wherein the transmission width detector is to select a working portion of the interconnect in response to the hard failure detector (Page 5, ¶0053, lines 4-11).

As claim 17, Phelps discloses the interconnect according to claim 15, wherein the hard failure detector is to indicate failed portions of the interconnect, and the transmission width detector is to select a working portion of the interconnect based on the indicated failed portions (Page 5, ¶0055, lines 4-10).

As to claim 18, Bender discloses the interconnect according to claim 15, wherein the transmission error detector is to perform a cyclic redundancy check (Page 32, ¶0325, lines 15-20).

As claim 19, Phelps discloses the interconnect according to claim 15, the transmitting agent to retry the transmission after the transmission width is reduced (Page 6, ¶0058, lines 1-11).

As claim 20, Phelps discloses the interconnect according to claim 15, wherein the interconnect is a bus (Page 3, ¶ 0031, lines 17-22).

As claim 21, Phelps discloses the interconnect according to claim 15, wherein the interconnect is an input/output bus (Page 3, ¶ 0031, lines 17-22).

As to claim 22, Bender discloses a system comprising:

a first component (Page 4, ¶0074, lines 1-2);

a second component (Page 4, ¶0074, lines 1-2); and

an interconnect comprising:

a transmission width to transmit information between the first component and the second component (Page 4, ¶0078, lines 1-5);

a transmission error detector to detect a transmission error of the interconnect (Page 32, ¶0325, lines 15-20);

a transmitting agent to retry a transmission in response to the detected error (Page 34, ¶0349, lines 1-6);

a hard failure detector to detect a hard failure of the interconnect if the retry is unsuccessful (Page 34, ¶0349, lines 6-10); and

Bender fails to disclose a transmission width reducer to reduce a transmission width of the interconnect in response to the hard failure detector.

Phelps discloses dynamically reconfiguring a signal path when detecting a predetermined condition (Abstract, lines 4-7). Phelps does discloses a transmission width reducer to reduce the transmission width of the interconnect in response to the hard failure detector (Page 3, ¶0032, lines 7-15).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to implement Phelps's width reducer with Bender's hard failure detector. A person of ordinary skill in the art would have been motivated to make the modification because by reducing the width of the connection allows the working portions of the interconnect to continue working without the whole computer system

shutting down or resetting to obtain working functionality of the interconnect (Phelps: Page 3, ¶0032, lines 12-15).

As claim 23, Phelps discloses the system according to claim 22, wherein the transmission width detector is to select a working portion of the interconnect in response to the hard failure detector (Page 5, ¶0053, lines 4-11).

As claim 24, Phelps discloses the system according to claim 22, wherein the hard failure detector is to indicate failed portions of the interconnect, and the transmission width detector is to select a working portion of the interconnect based on the indicated failed portions (Page 5, ¶0055, lines 4-10).

As to claim 25, Bender discloses the system according to claim 22, wherein the transmission error detector is to perform a cyclic redundancy check (Page 32, ¶0325, lines 15-20).

As claim 26, Phelps discloses the system according to claim 22, the transmitting agent to retry the transmission after the transmission width is reduced (Page 6, ¶0058, lines 1-11).

As claim 27, Phelps discloses the system according to claim 22, wherein the interconnect is a bus (Page 3, ¶ 0031, lines 17-22).

As claim 28, Phelps discloses the system according to claim 22, wherein the interconnect is an input/output bus (Page 3, ¶ 0031, lines 17-22).

As claim 29, Phelps discloses the system according to claim 22, wherein the first component is a processor, a memory, a chip set, a memory bridge, an I/O device or an

I/O hub and the second component is a processor, a memory, a chip set, a memory bridge, an I/O device or an I/O hub (Figure 2, Page 2, ¶0027).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Ehne whose telephone number is (571)-272-2471. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571)-272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.